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LAW OFFICE OF DAN SHIFRIN
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EXAMINER

MYINT, DENNIS Y

ART UNIT	PAPER NUMBER
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2162

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/674,900	Applicant(s) BARTFAI ET AL.	
	Examiner DENNIS MYINT	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on April 21, 2008 has been entered.

2. The amendment filed on April 21, 2008 has been received and entered. Claims 1-29 are currently pending in this application. Claims 1, 9, 14, and 22 are independent claims. On the amendment filed on April 21, 2008, claims 1, 9, 14, and 22 were amended.

3. Amendment to the specification filed on March 9, 2007 and amendment to the specification filed on July 7, 2006, are hereby entered.

Claim Objections

4. Claim 1 is hereby objected to because of the following informalities: claim 1 in line 3-4 recites "PPRC volumes" and "PPRC unit". "Peer-to-Peer Remote Copy (PPRC)" is suggested. Appropriate correction is required.

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Claim 2 is hereby objected to because of the following informalities: claim 2 in line 1 recites "a write-inhibit indicator is **operable to** prevent". MPEP 2111.04 [R3] states that "*claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure*". As such, the use of "operable to" is directed to "intended use" which is optional. As such, Applicant is requested to make appropriate correction to overcome this claim objection.

Clam 2 is hereby objected to because of the following informalities: claim 2 in lines 1-2 recites "to prevent **the to** reception of data updates". Herein, "the to" is grammatically incorrect. Applicant is required to make appropriate correction(s).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-8 and 14-21 are all rejected under 35 U.S.C. §112, First Paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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As per claim 1, the claim in line 5 recites “upon the primary PPRC volumes forming a new consistency group”. However, the specification of the claimed invention fails to describe/recite how said "new consistency group" is "formed on the primary PPRC volumes. Nowhere in the specification could be found any step/method/process which forms a new consistency group on the primary PPRC volumes. As such, claim 1 is rejected under 35 U.S.C. 112 first paragraph because the claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

All the dependent claims claim 1 are all rejected under 35 U.S.C. 112 first paragraph by virtue of their dependency on claim 1.

Claim 14 in lines 11-14 recites “an application executing on the **secondary** storage controller, the application comprising instructions for: transferring data updates from at least one host device to the primary PPRC volumes”. According to Figure 1 of the specification of the instant application (U.S. Patent Application Publication Number 2005/0071372), the application which performs the steps of transferring data updates from at least one host device is located on “the **primary** storage controller” (item 102 of Figure 1). As such, there is proper antecedent for “an application executing on the **secondary** storage controller, the application comprising instructions for: transferring data updates from at least one host device to the primary PPRC volumes”. As such, said claim language “an application executing on the **secondary** storage

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controller, the application comprising instructions for: transferring data updates from at least one host device to the primary PPRC volumes”) is not supported by the specification. Therefore, claim 14 is rejected under 35 U.S.C. 112 first paragraph because the claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

All the dependent claims claim 14 are all rejected under 35 U.S.C. 112 first paragraph by virtue of their dependency on claim 14.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 22-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

9. Claims 22-29 are directed to “a computer program product of a computer readable medium usable with a programmable computer”. The claims fail to place the invention squarely within one statutory class of invention. On page 11 of the instant specification, applicant has provided evidence that applicant intends the “medium” to include programmable logic, etc. signal. As such, the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim(s) is/are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefor not a composition of matter.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milillo et al., (hereinafter "Milillo", U.S. Patent Number 6643671) in view of Asselin et al., (hereinafter "Asselin", "Implementing Concurrent Policy", IBM Document Number GG24-3990-00, December 1993) and further in view of Taylor (U.S. Patent Application Publication Number 2004/0220981).

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As per claim 1, Milillo is directed to “a method for protecting consistency groups during a data storage backup operation” (Milillo, Figure 2) and teaches the limitations:

“transferring data updates from a host device” (Milillo, Figure 2: *Host 42*) **“to primary PPRC volumes on a primary PPRC unit”** (Milillo, Figure 2: *Source Volume 52*) (Also note Milillo, Column 7 Line 1-25, i.e., *Referring next to FIG. 2, a block diagram of the preferred accumulation remote copy trio architecture according to the present invention is shown, denoted generally by reference numeral 40. As seen therein, a host 42 is provided in communication with primary storage subsystem 44 via communication path 46. Primary storage subsystem 44 is also provided in communication with a secondary storage subsystem 48 via communication path 50. Primary storage subsystem 44 includes a source storage volume 52, which is provided in communication with a primary target storage volume 54. Secondary storage subsystem 48 includes a secondary storage volume 56, which together with primary target storage volume 54 comprise an established PPRC volume pair as previously described. Source volume 52, primary target volume 54, and secondary volume 56 together comprise the preferred accumulation remote copy trio. It should be noted that FIG. 2 depicts a single PPRC volume pair (primary target volume 54 and secondary volume 56) and a single source volume 52 for the sake of simplicity only. As those of ordinary skill will appreciate, additional PPRC volume pairs and source volumes may also be included. Primary storage subsystem 44 and*

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secondary storage subsystem 48 are disk systems in these examples, although tape or other storage systems known in the art may also be used);

“upon the primary PPRC volumes forming a consistency group, transferring the primary PPRC volumes to FlashCopy source volumes on a secondary PPRC unit” (Milillo et al. Figure 2, “Primary Target Volume” 54; Note that Milillo recites in column 7 lines 1-25 that *It should be noted that Fig. 2 depicts a single PPRC volume pair (primary target volume 54 and secondary volume 56) and a single source volume 52 for the sake of simplicity only. As those of ordinary skill will appreciate, additional volume pairs and source volumes may also be included.* Thus, in the method and system of Milillo, additional volumes can be placed on both primary and secondary systems. Therefore, “Primary Target Volumes” of Milillo (Milillo Figure 2, Primary Target Volume 54) maps to “PPRC Primary Site Storage Volumes” of the claimed invention (Specification of the claimed invention, Figure 1, PPRC Primary Site Storage Volumes 116 (i.e., the primary volumes” in line 5 of claim1 of the application)) and “Secondary Volume” of Milillo (Milillo Figure 2, Secondary Volume 56) maps to “FlashCopy Source volumes on a secondary PPRC unit” (i.e., item 118 (PPRC secondary site storage volumes (FlashCopy source volumes)) of Figure 1 of the specification of the claimed invention).

Milillo does not explicitly teach the limitations:

“attempting to prepare each FlashCopy source volume for a FlashCopy operation to corresponding FlashCopy target volumes on which a prior

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consistency group is retained, the attempt including imposing a write-inhibit indicator on each FlashCopy source volume”,

“committing a FlashCopy operation of the consistency group from the FlashCopy source volumes to corresponding FlashCopy target volumes”

“if the preparation of all FlashCopy source volumes is successful, whereby the prior consistency group retained in the FlashCopy target volumes is replaced by the new consistency group; and

“reverting the FlashCopy operation if the preparation of any FlashCopy source volume is unsuccessful, whereby the prior consistency group is maintained in the FlashCopy target volumes”.

On the other hand, Asselin teaches the limitation:

“attempting to prepare each FlashCopy source volume for a FlashCopy operation to corresponding FlashCopy target volumes on which a prior consistency group is retained, the attempt including imposing a write-inhibit indicator on each FlashCopy source volume” (Asselin, Page 2-3, Asselin teaches a method of concurrent copy where in source is not available for access for a short period of time while concurrent copy process initialized. Asselin Page 2 recites “ *when you use concurrent copy, application processing **is interrupted** only for a short period while the system initializes the concurrent copy environment* and Page 3, i.e., *The **system serializes** access to the data being dumped or copied long enough for the concurrent copy session to be initialized.* Therein, it is evident in the method of concurrent copy as taught by Asselin that **write-inhibit indicators are imposed during the initialization period of the**

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concurrent copy process. Additionally, page 6 of Asselin teaches multiple source volumes and target volumes as *"From the perspective of the host, a concurrent copy session can include multiple data sets and span multiple volumes and storages controls. A data set can participate in multiple sessions. A session remains in effect until DFSMSdss transfers all tracks in the domain from the storage control to the host and copies them to the backup media (Asselin page 7 fourth paragraph). Moreover, fifth paragraph on page 6 of Asselin teaches "the SDM includes ranges of tracks for each volume in the domain. When the 3990 has transferred all tracks in range to the host system, the SDM removes those tracks from the concurrent copy session". Also note Figure 4 of Asselin wherein concurrent system overview is presented. As such, **one of a plurality of targets volumes in the system/method of Asselin maps to "FlashCopy target volumes" of the claimed invention**, i.e., item 120 of Figure 1 of the specification of the claimed invention.),*

"committing a FlashCopy operation of the consistency group from the FlashCopy source volumes to corresponding FlashCopy target volumes, whereby the prior consistency group retained in the FlashCopy target volume is replaced by the new consistency group" (As discussed above, "Primary Target Volumes" of Milillo (Milillo Figure 2, Primary Target Volume 54) maps to "PPRC Primary Site Storage Volumes" of the claimed invention (Specification of the claimed invention, Figure 1, PPRC Primary Site Storage Volumes 116 (i.e., the primary volumes" in line 5 of claim1 of the application)) and "Secondary Volume" of Milillo (Milillo Figure 2, Secondary Volume 56) maps to "FlashCopy Source

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volumes on a secondary PPRC unit" (i.e., item 118 (PPRC secondary site storage volumes (FlashCopy source volumes)) of Figure 1 of the specification of the claimed invention). Additionally, one of a plurality of targets volumes in the system/method of Asselin maps to "FlashCopy target volumes" of the claimed invention, i.e., item 120 of Figure 1 of the specification of the claimed invention. Therefore, if the system/method of Asselin is combined with the system/method of Milillo, the combined method would commit to copy consistency group from sources volumes to corresponding target volumes).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the method of Milillo for data copying using consistency groups with the methods of Asselin which teaches copying sources volumes to target volumes with write-inhibitors so that, in the combined method, write operations on source consistency group volumes would be made unavailable by way of using write-inhibitors (i.e. preparing the consistency groups for FlashCopy). One would have been motivated to do so in order to "reduce the amount of time that is required to back up application data, hence increasing the time available for online service" (Asselin et al., Page 2 Second Paragraph).

Milillo in view of Asselin does not explicitly teach the limitations:

"(committing a FlashCopy operation of the consistency group from the FlashCopy source volumes to corresponding FlashCopy target volumes)if the preparation of all FlashCopy source volumes is successful", (whereby the prior consistency group retained in the FlashCopy target volumes is replaced by the new consistency group) (Herein, Note that limitations in the parentheses (i.e.,

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“committing a FlashCopy operation of the consistency group from the FlashCopy source volumes to corresponding FlashCopy target volumes” and “whereby the prior consistency group retained in the FlashCopy target volumes is replaced by the new consistency group” are taught by Milillo in view of Asselin as discussed above) ; and

“reverting the FlashCopy operation if the preparation of any FlashCopy source volume is unsuccessful, whereby the prior consistency group is maintained in the FlashCopy target volumes”.

On the other hand, Taylor teaches “if a preparation of a copy/backup operation is successful, committing said copy/back operation” and “if not, reverting said copy/backup operation by retaining a prior database” (Taylor Paragraph 0040, i.e., *The Acquire stage 208 FIG. 5 is performed to prepare the system to allow the backup process to take place. The first step 216 is to determine if an online backup has been requested. **If so, then the system prepares the database for online backup 218**, which is described in reference to FIG. 9 below. The results of the online backup preparation are determined in step 220. **If the online backup preparation was successful, the processing is complete**, step 214. However **if the online backup preparation was not successful, then the system attempts to return to database accessibility by releasing the database from online backup preparation**, step 222, which is described in reference to FIG. 10. When that is complete, the processing is complete, step 214”).*

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the features of determining if a preparation of a copy/backup operation is successful and committing said copy/back operation if it was successful" and "if not, reverting said copy/backup operation by retaining a prior database", as taught by Taylor, to the method of Milillo in view of Asselin so that, in the combined method, write operations on source consistency group volumes would be made unavailable by way of using write-inhibitors (i.e. preparing the consistency groups for FlashCopy) and mirroring/copying/updates between the consistency group volumes (FlashCopy operations) would be committed if preparations of consistency groups are successful and reverted if said preparation is not successful. One would have been motivated to do so in order to "reduce the amount of time that is required to back up application data, hence increasing the time available for online service" (Asselin et al., Page 2 Second Paragraph) and to "*provide a safe and effective backup*" (Taylor, Paragraph 0015).

Referring to claim 2, the method and system of Milillo in view of Asselin and further in view of Taylor as discussed above with regard to claim 1 discloses the invention as claimed. Particularly, Asselin in view of Taylor teaches the limitation:

"wherein a write-inhibit indicator is operable to prevent the reception of data updates by the FlashCopy source drive transmitted from the PPRC source device during a FlashCopy operation" (Asselin, Page 2-3 teaches write-inhibitors

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and Taylor, Paragraph 0040, i.e., *However if the online backup preparation was not successful, then the system attempts to return to database accessibility by releasing the database from online backup operation*).

Referring to claim 3, the method and system of Milillo in view of Asselin and further in view of Taylor as discussed above with regard to claim 1 discloses the invention as claimed. It is inherent in the method and system of Milillo in view of Asselin and further in view of Taylor that write-inhibitors would be released if the preparation of all FlashCopy source volumes is successful and, as such, teaches the limitation:

“further comprising releasing the write-inhibit indicators if the preparation of all FlashCopy source volumes is successful” (Asselin, Page 3, i.e. “After logical completion, the data is once again available for unrestricted application access; and Taylor, Paragraph 0040, i.e., *if the online backup preparation was successful*).

Referring to claim 4, Milillo in view of Asselin and further in view of Taylor teaches the limitation:

“wherein the step of preparing each FlashCopy source volume for a FlashCopy operation comprises generating an Establish-FlashCopy-Revertable command” (Taylor, Figure 10: *222 Release Database from Online Preparation* and Paragraph 0042, i.e., *the Release stage*).

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Referring to claim 5, Milillo in view of Asselin and further in view of Taylor teaches the limitation:

“wherein the step of committing the FlashCopy operation comprises generating a Withdraw-FlashCopy-commit command” (Taylor, Paragraph 0040, i.e., *if the online backup preparation was successful* and Paragraph 0040, i.e., *However if the online backup preparation was not successful, then the system attempts to return to database accessibility by releasing the database from online backup operation*).

Referring to claim 6, Milillo in view of Asselin and further in view of Taylor teaches the limitation:

“wherein the step of reverting the FlashCopy operation comprises generating a Withdraw-FlashCopy-revert command” (Taylor, Paragraph 0040, i.e., *if the online backup preparation was successful* and Paragraph 0040, i.e., *However if the online backup preparation was not successful, then the system attempts to return to database accessibility by releasing the database from online backup operation*).

As per claim 7, Milillo in view of Asselin and further in view of Taylor teaches the limitation:

“the method further comprises deciding after an attempt to prepare each FlashCopy source volume whether the preparation is successful; and the reverting step comprises reverting the FlashCopy operation following any

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unsuccessful preparation” (Taylor, Paragraph 0040, i.e., *if the online backup preparation was successful* and Paragraph 0040, i.e., *However if the online backup preparation was not successful, then the system attempts to return to database accessibility by releasing the database from online backup operation*).

Claim 8 is rejected on the same basis as claim 7.

Claim 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, and 29 are rejected on the same basis as claim 1, 2, 3, 7, 8, 1, 2, 3, 4, 5, 6, 7, 8, 1, 2, 3, 4, 5, 6, 7, and 8 respectively.

Response to Arguments

13. Applicant's arguments filed on April 21, 2008, regarding the rejection of claims 1-29 under 35 U.S.C. 103 (a) have been fully considered but they are not persuasive.

Referring to claim 1, Applicant argued that *"The final Office Action and he Advisory conceded that neither Milillo nor Asselin teach "committing a FlashCopy operation of the consistency group from the FlashCopy source volumes to the corresponding FlashCopy target volumes if the preparation of all FlashCopy volumes is successful" or "reverting the FlashCopy operation if the preparation of any FlashCopy source volume is unsuccessful thereby the prior consistency group is maintained in the FlashCopy target volumes". (Applicant's argument, page 10 second paragraph).*

In response, it is pointed out that Milillo in view of Asselin and further in view of Taylor teaches said limitations as follows. Milillo in view of Asselin does not explicitly teach the limitations: "(committing a FlashCopy operation of the consistency group from the FlashCopy source volumes to corresponding FlashCopy target volumes)if the preparation of all FlashCopy source volumes is successful", (whereby the prior consistency group retained in the FlashCopy target volumes is replaced by the new consistency group) (Herein, Note that limitations in the parentheses (i.e., "committing a FlashCopy operation of the consistency group from the FlashCopy source volumes to corresponding FlashCopy target volumes" and "whereby the prior consistency group retained in the FlashCopy target volumes is replaced by the new consistency group" are

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taught by Milillo in view of Asselin as discussed above) ; and “reverting the FlashCopy operation if the preparation of any FlashCopy source volume is unsuccessful, whereby the prior consistency group is maintained in the FlashCopy target volumes”.

On the other hand, Taylor teaches “if a preparation of a copy/backup operation is successful, committing said copy/back operation" and “if not, reverting said copy/backup operation by retaining a prior database" (Taylor Paragraph 0040, i.e., *The Acquire stage 208 FIG. 5 is performed to prepare the system to allow the backup process to take place. The first step 216 is to determine if an online backup has been requested. **If so, then the system prepares the database for online backup 218**, which is described in reference to FIG. 9 below. The results of the online backup preparation are determined in step 220. **If the online backup preparation was successful, the processing is complete, step 214.** However **if the online backup preparation was not successful, then the system attempts to return to database accessibility by releasing the database from online backup preparation, step 222, which is described in reference to FIG. 10. When that is complete, the processing is complete, step 214**”).*

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the features of determining if a preparation of a copy/backup operation is successful and committing said copy/back operation if it was successful" and “if not, reverting said copy/backup operation by retaining a prior database", as taught by Taylor, to the method of

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Milillo in view of Asselin so that, in the combined method, write operations on source consistency group volumes would be made unavailable by way of using write-inhibitors (i.e. preparing the consistency groups for FlashCopy) and mirroring/copying/updates between the consistency group volumes (FlashCopy operations) would be committed if preparations of consistency groups are successful and reverted if said preparation is not successful. One would have been motivated to do so in order to “reduce the amount of time that is required to back up application data, hence increasing the time available for online service” (Asselin et al., Page 2 Second Paragraph) and to “*provide a safe and effective backup*” (Taylor, Paragraph 0015).

Applicant also argued that “*with specific reference to paragraph 40, Taylor teaches that it is a database which is prepared for a backup; there is no disclosure or suggestion that an attempt is made to prepare multiple source volumes for backup. There is also no disclosure or suggestion that if the attempt to prepare any one of the source volumes fails (particularly since Taylor does not include the use of source volumes), then the operation will be reverted*” (Applicant's argument, page 10 last paragraph through page 11 first paragraph).

In response, it is pointed out that “*an attempt is made to prepare multiple source volumes for backup*” are taught by the combination of Milillo in view of Asselin and further in view of Taylor. Particularly, Milillo in view of Asselin teaches “multiple source volumes and target volumes” as discussed extensively with respect to claim 1 above. Similarly, it is pointed out that Milillo in view of Asselin and further in view of Taylor teaches the limitation that “*if the attempt to*

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prepare any one of the source volumes fails, then the operation will be reverted”

(Milillo in view of Asselin and further in view of paragraph 40 of Taylor).

In view of the above, the examiner contends that all limitations as recited in the claims have been addressed in this Action. For the above reasons, Examiner believed that rejection of the last Office action was proper.

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Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-5629.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cam Y Truong/

Primary Examiner, Art Unit 2162

/dennis myint/

Dennis Myint
Examiner
AU-2162